

ABSTRACT OF THE INVENTION

In a wireless network system having a wired backbone network with two or more sub-networks, each having one or more access points for communicating with wireless units via a wireless transmission medium, a system, apparatus and method for a wireless unit to determine whether a candidate access point is on a different sub-network than its current access point. If the wireless unit determines that the candidate access point is on a different sub-network, then the wireless unit releases its current network protocol address which was valid for the current sub-network, and obtains a new network protocol address valid for the new sub-network. This is accomplished by the candidate access point transmitting a multicast packet that includes the network protocol address of the access point and the subnet mask of the sub-network which the access point is on. By receiving this multicast packet, the wireless unit can determine if the candidate access point is on a different sub-network than its current sub-network. Also disclosed is a technique for a wireless unit to determine whether to roam to a candidate access point based on the signal qualities to its current and candidate access points, and whether the candidate access point is on a different sub-network or a designated restricted sub-network.